

TRAFFIC FORECASTS

A. Project Economic Context

1. The rapid mining-led development of Mongolia's economy has led to high growth in vehicle ownership and traffic. Between 2000 and 2010, the vehicle fleet in Ulaanbaatar tripled and the daily number of vehicles on many interurban roads rose at 10–13% per year. Between 2010 and 2020, Mongolia's economy is forecast to grow at 10–15% annually. Therefore, continued high growth in vehicle ownership and traffic is expected.

2. Due to their remoteness, the people living in Mongolia's two westernmost *aimags* of Khovd and Bayan-Olgii have benefitted less from Mongolia's booming market economy. In 2009, the per capita GDP of Western Mongolia was MNT900,000 (\$690), only 40% of Mongolia's average. It takes three days to reach Ulaanbaatar, via 1,500 km of dirt tracks, and two days, partly through similarly poor roads, to reach the nearest urban hubs of Barnaul to the north in the Russian Federation (840 km from Olgii) or Urumqi to the south in the People's Republic of China (PRC - 990 km from Khovd). Transport costs are too high to justify transporting anything but basic consumption needs, thwarting local economic development. Distance can also make it harder for the local people to feel connected with the rest of the country, and for the government to respond to their needs. Food security and economic crisis concerns, which frequently arise in Mongolia during prolonged snowy winters (*dzuds*), are harder to tackle in Western Mongolia.

3. In the current situation, transport within and through Western Mongolia is constrained by the lack of infrastructure. The local transport fleet (about 8,600 vehicles—half the motorization rate in the rest of Mongolia) is mainly composed of four wheel drive vehicles, and medium size trucks or buses, both of which operate with high transport costs. Western Mongolia depends on its connection with Russia for sourcing fuel and a large share of food/drink products, and on its connection with the PRC for construction materials, equipment and manufactured products. Local bilateral trade reached a value of \$15.6 million with Russia and \$20.3 million with PRC in 2009 (both mostly imports). The total volume was estimated at 71,700 tons, or about 4,100 trucks annually in each direction. There is no record of any existing transit traffic between the PRC and the RF through Western Mongolia.

4. The Project forms part of several national and multilateral initiatives to end the isolation of Western Mongolia. Mongolia's National Development Strategy reaffirms government's commitment to gradually construct the Millennium Road, an east-west paved road link that will ultimately halve transport times and costs between Western Mongolia and Ulaanbaatar. The Project corridor includes two sections of this road (Olgii-Khovd and Khovd-Mankhan). It also forms the Mongolian section of CAREC corridor 4a connecting Mongolia to the Russian and Chinese markets.

B. Traffic Forecasts

5. Traffic forecasts were based on the analysis of current traffic (traffic baseline), forecast growth, and project impacts.

6. **Traffic Baseline.** Existing traffic on the existing tracks located along the Project corridor was estimated through (i) traffic counts and origin-destination surveys undertaken by PPTA consultants during 24 to 48 hours each in 2005, 2006, 2007 and 2010, and (ii) traffic counts undertaken three times a year during 72 hours each by the Department of Roads (DOR). The

findings were confirmed by ADB's missions through moving traffic counts. Surveys revealed that traffic is in a range of 50 to 200 vehicles per day, with significant seasonal and yearly variability. It is in the higher part of this range on the sections between Olgii and Khovd, and Khovd to Mankhan, which attract local traffic and traffic going to or from Ulaanbaatar. It is in the lower part of this range in the northernmost and southernmost sections, where cross-border traffic dominates. This pattern and range was confirmed by a modeling of transport flows based on vehicle fleet, population and distances, using a simple gravity model. A baseline 100 average annual daily traffic (AADT) on the corridor was used in this evaluation (Table 1).

Table 1: Traffic Survey Results and 2010 Baseline

Average Annual Daily Traffic (AADT)	Ulaanbaishint - Olgii	Olgii-Khovd	Khovd-Mankhan	Mankhan-Altai-Yarant	Average
DOR counts (2007)	94	117	81	54	
DOR counts (2008)	80	136	78	46	
DOR counts (2009)	59	83	99	31	
TA 7449 (2010)	60	96	42	19	
TA 4785 (2006–2007)	156	168	234		
TA 4643 (2005)	55	150	95	75	
2010 Traffic Baseline	76	141	173	76	106
(% of trucks)	(30%)	(40%)	(40%)	(35%)	

DOR = Department of Roads, TA = technical assistance.

Source: ADB and the DOR.

7. **Without-Project Scenario.** Even without the Project, transport demand would increase above the baseline. This will result from the rise of the purchasing power of Western Mongolia's people, which will be fostered by central government's planned fiscal transfers, public services and investments. The ongoing development of the large Khushuut coal mine, 80 km South-East of Khovd, will also induce some economic activity (mining traffic itself will use a dedicated road 50 km east of the Project). Assumptions used in building the counterfactual without-Project scenario included (i) a rate of economic growth of 7–8% annually, (ii) traffic growth elasticities of 1.1 (freight) to 1.3 (passengers), and (iii) population growth to reach 0.7% annually (lower than national average due to outbound migrations), with a concentration in Khovd, Olgii and secondary urban centers, and a decrease in rural areas. Overall, without the Project, traffic is forecast to grow at 6–8.5% annually from the current baseline. It would reach 260–720 AADT on the corridor by 2030, with an average AADT of 410.

8. **With-Project Scenario.** The Project will replace existing dirt tracks and limited gravel road sections used by travelers and truckers with a seven meter wide asphalt concrete paved road. The road will be open all-year round, unlike the current tracks which frequently become impassable, particularly in the winter. The road will link with existing paved roads in Russia (at Ulaanbaishint) and the PRC (at Yarant) to provide continuous quality road connections to Barnaul and Urumqi. Once the ongoing Millennium Road project is complete, the Project will also complete a paved road link from Western Mongolia to Ulaanbaatar. Overall, the Project is expected to have the following impacts on transport conditions, costs and demand:

- (i) **Generated Traffic.** Smooth road surfacing will allow higher speeds (up to 90 kph) and lower vehicle operating costs. Depending on the section, transport times costs would be reduced by 30 to 50%. Driving the entire road with a four wheel drive vehicle currently takes about 15 hours (not accounting for the frequent mechanical failures and stops) and costs \$470 (including vehicle depreciation). With the same vehicle, this would drop to 8 hours and \$280 after the road is built. Paving the road would allow it to be used by small and medium-

sized cars, reducing costs further to \$143. Such massive cost reduction will generate additional traffic. A transport cost elasticity of 1.0 was assumed, based on the results of user and stakeholder surveys. This traffic increase is assumed to happen over an initial ramp-up period of 3 years.

- (ii) **Diverted Traffic.** Heavier trucks, estimated to be 20% of truck traffic, have been using tracks parallel to the Project corridor from Olgii to Khovd due to the steep grades. They are expected to divert to the Project road.
- (iii) **Full Year Opening.** The current tracks are frequently affected by snowblocks and floodings. The sections between Khovd and Olgii and Mankhan to Bulgan, which include high mountain passes, can be closed during 1 to 2 months each year. The Project road will be less prone to flooding and will facilitate snow removal. An addition 10% increase in traffic is expected to be induced by year-round passability.
- (iv) **Vehicle Fleet Composition Change.** Paving the road will allow more efficient vehicles. It is assumed that due to the Project, 50% of the four wheel drive passengers will shift to medium-sized cars over a period of 5 years.
- (v) **Induced Mining Traffic.** The development of three mines (ore, silver and rare earths) currently at a development or prospective stage are expected to be indirectly fostered by the Project in the five years following Project completion. This would generate an average of 23 heavy trucks per day on the project corridor.
- (vi) **Induced Cross-Border Traffic.** Completing the connection to the borders is expected to induce additional connections between the economies of Mongolia, the PRC, and the RF. Given the current cross-border transport patterns, cross-border traffic with the PRC is expected to grow by an additional 15% and traffic with the RF by an additional 10% (cumulative with previous effects).
- (vii) **Transit Traffic.** The project may become an alternative for transit traffic between Xingjiang and Russia. However, the railway has a competitive advantage for transport between Urumqi and Novosibirsk as the distance is above 1,000 km. Overall, it is estimated that 5% of the trade between Central Siberia and Xingjiang will transit on the road. This would be equivalent to 6 trucks daily by 2014 and could reach 30 trucks daily by 2030.

9. Overall, traffic is expected to reach 470 to 1,270 AADT by 2030 on the project corridor, for an average 720 AADT. Traffic baseline and forecasts for 2016, 2022 and 2030 are detailed in Tables 2 and 3.

Table 2: Summary Traffic Forecasts

Average Annual Daily Traffic (AADT)	Baseline	Without Project case		With Project case	
	2010	2020	2030	2020	2030
Ulaanbaishint -Olgii	76	146	261	248	488
Olgii-Khovd	144	300	590	436	1,012
Khovd-Mankhan	173	368	723	630	1,268
Mankhan-Altai-Yarant	76	146	263	243	473
Average	100	215	410	350	723

Source: ADB staff estimates.

Table 3.1: Detailed Traffic Forecasts – Yarant–Bulgan

Year	Without Project Case									With Project Case								
	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck
	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated
2010	0	40	8	1	0	7	10	10	0	0	40	8	1	0	7	10	10	0
2011	0	43	9	1	0	7	11	11	0	0	43	9	1	0	7	11	11	0
2012	0	45	9	1	0	8	11	11	0	6	49	11	1	0	9	13	13	0
2013	0	48	10	1	0	8	12	12	0	12	56	13	2	0	11	16	16	0
2014	0	52	10	1	0	9	12	12	0	19	64	15	2	0	13	19	19	0
2015	0	55	11	1	0	9	13	13	0	21	69	17	2	0	14	20	20	0
2016	0	60	12	1	0	10	14	14	0	22	75	18	2	0	15	21	22	0
2017	0	64	13	2	0	10	15	15	0	24	80	19	2	0	15	22	23	0
2018	0	69	14	2	0	11	16	16	0	36	79	21	3	0	16	24	24	0
2019	0	74	15	2	0	12	17	17	0	50	78	22	3	0	17	25	26	0
2020	0	80	16	2	0	12	18	18	0	66	76	24	3	0	19	26	27	0
2021	0	86	17	2	0	13	19	19	0	84	73	26	3	0	20	28	29	7
2022	0	92	18	2	0	14	20	20	0	104	69	28	3	0	21	30	31	8
2023	0	99	20	2	0	15	21	21	0	111	74	30	4	0	22	31	32	8
2024	0	106	21	3	0	16	22	22	0	119	79	32	4	0	23	33	34	9
2025	0	113	23	3	0	16	23	23	0	127	85	34	4	0	25	35	36	10
2026	0	121	24	3	0	17	25	25	0	136	91	36	5	0	26	37	38	11
2027	0	130	26	3	0	18	26	26	0	146	97	39	5	0	28	39	40	11
2028	0	135	27	3	0	19	27	27	0	152	102	41	5	0	29	41	42	12
2029	0	142	28	4	0	20	28	28	0	159	106	42	5	0	30	42	43	13
2030	0	148	30	4	0	21	29	29	0	166	111	44	6	0	31	44	45	14
2031	0	154	31	4	0	21	31	31	0	174	116	46	6	0	32	46	47	15
2032	0	161	32	4	0	22	32	32	0	182	121	48	6	0	33	48	48	17
2033	0	165	33	4	0	23	32	32	0	186	124	50	6	0	34	49	50	18
2034	0	169	34	4	0	23	33	33	0	190	127	51	6	0	35	50	51	20
2035	0	173	35	4	0	24	34	34	0	195	130	52	6	0	36	51	52	21

Table 3.2: Detailed Traffic Forecasts – Bulgan–Mankhan

Year	Without Project Case									With Project Case								
	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck
	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated
2010	0	40	8	1	0	7	10	10	0	0	40	8	1	0	7	10	10	0
2011	0	43	9	1	0	7	11	11	0	0	43	9	1	0	7	11	11	8
2012	0	45	9	1	0	8	11	11	0	0	45	9	1	0	8	11	11	15
2013	0	48	10	1	0	8	12	12	0	0	48	10	1	0	8	12	12	23
2014	0	52	10	1	0	9	12	12	0	0	52	10	1	0	9	12	12	23
2015	0	55	11	1	0	9	13	13	0	7	60	13	2	0	11	15	16	23
2016	0	60	12	1	0	10	14	14	0	15	70	16	2	0	13	19	19	23
2017	0	64	13	2	0	10	15	15	0	24	80	19	2	0	15	22	23	23
2018	0	69	14	2	0	11	16	16	0	36	79	21	3	0	16	24	24	23
2019	0	74	15	2	0	12	17	17	0	50	78	22	3	0	17	25	26	23
2020	0	80	16	2	0	12	18	18	0	66	76	24	3	0	19	26	27	23
2021	0	86	17	2	0	13	19	19	0	84	73	26	3	0	20	28	29	30
2022	0	92	18	2	0	14	20	20	0	104	69	28	3	0	21	30	31	31
2023	0	99	20	2	0	15	21	21	0	111	74	30	4	0	22	31	32	31
2024	0	106	21	3	0	16	22	22	0	119	79	32	4	0	23	33	34	32
2025	0	113	23	3	0	16	23	23	0	127	85	34	4	0	25	35	36	33
2026	0	121	24	3	0	17	25	25	0	136	91	36	5	0	26	37	38	33
2027	0	130	26	3	0	18	26	26	0	146	97	39	5	0	28	39	40	34
2028	0	135	27	3	0	19	27	27	0	152	102	41	5	0	29	41	42	35
2029	0	142	28	4	0	20	28	28	0	159	106	42	5	0	30	42	43	36
2030	0	148	30	4	0	21	29	29	0	166	111	44	6	0	31	44	45	37
2031	0	154	31	4	0	21	31	31	0	174	116	46	6	0	32	46	47	38
2032	0	161	32	4	0	22	32	32	0	182	121	48	6	0	33	48	48	40
2033	0	165	33	4	0	23	32	32	0	186	124	50	6	0	34	49	50	41
2034	0	169	34	4	0	23	33	33	0	190	127	51	6	0	35	50	51	42
2035	0	173	35	4	0	24	34	34	0	195	130	52	6	0	36	51	52	44

Table 3.3: Detailed Traffic Forecasts – Mankhan-Khovd

Year	Without Project Case									With Project Case								
	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck
	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated
2010	0	90	10	3	0	20	30	20	0	0	90	10	3	0	20	30	20	0
2011	0	97	11	3	0	21	32	21	0	0	97	11	3	0	21	32	21	8
2012	0	104	12	3	0	23	34	23	0	0	104	12	3	0	23	34	23	15
2013	0	111	12	4	0	24	37	24	0	0	111	12	4	0	24	37	24	23
2014	0	120	13	4	0	26	39	26	0	0	120	13	4	0	26	39	26	23
2015	0	130	14	4	0	28	42	28	0	16	141	17	5	0	33	49	34	23
2016	0	141	16	5	0	30	46	30	0	35	164	21	6	0	41	61	41	23
2017	0	153	17	5	0	33	49	33	0	57	191	25	8	0	49	74	50	23
2018	0	166	18	6	0	35	53	35	0	87	191	28	8	0	53	80	54	23
2019	0	180	20	6	0	38	57	38	0	122	189	30	9	0	57	86	58	23
2020	0	196	22	7	0	41	62	41	0	161	186	33	10	0	62	93	63	23
2021	0	212	24	7	0	45	67	45	0	207	180	35	11	0	67	100	68	30
2022	0	229	25	8	0	48	72	48	0	258	172	38	11	0	72	108	73	31
2023	0	247	27	8	0	51	77	51	0	278	186	41	12	0	77	116	78	31
2024	0	267	30	9	0	55	83	55	0	300	200	45	13	0	83	124	84	32
2025	0	288	32	10	0	59	89	59	0	324	216	48	14	0	89	134	90	33
2026	0	311	35	10	0	64	96	64	0	350	233	52	16	0	96	143	97	33
2027	0	336	37	11	0	69	103	69	0	378	252	56	17	0	103	154	104	34
2028	0	353	39	12	0	72	108	72	0	397	265	59	18	0	108	162	109	35
2029	0	371	41	12	0	75	113	75	0	417	278	62	19	0	113	170	114	36
2030	0	389	43	13	0	79	119	79	0	438	292	65	19	0	119	178	120	37
2031	0	409	45	14	0	83	125	83	0	460	307	68	20	0	125	187	126	38
2032	0	430	48	14	0	87	131	87	0	483	322	72	21	0	131	196	132	40
2033	0	441	49	15	0	90	135	90	0	496	331	74	22	0	135	202	136	41
2034	0	453	50	15	0	92	139	92	0	510	340	75	23	0	139	208	140	42
2035	0	465	52	16	0	95	143	95	0	523	349	78	23	0	143	214	144	44

Table 3.4: Detailed Traffic Forecasts – Khovd-Olgii

Year	Without Project Case									With Project Case								
	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck
	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated
2010	0	73	10	3	0	10	25	20	0	0	73	10	3	0	10	25	20	0
2011	0	78	11	3	0	11	27	21	0	0	78	11	3	0	11	27	21	0
2012	0	84	12	3	0	11	29	23	0	0	84	12	3	0	11	29	23	0
2013	0	90	12	4	0	12	31	24	0	0	90	12	4	0	12	31	24	0
2014	0	97	13	4	0	13	33	26	0	0	97	13	4	0	13	33	26	0
2015	0	105	14	4	0	14	35	28	0	0	105	14	4	0	14	35	28	0
2016	0	114	16	5	0	15	38	30	0	0	114	16	5	0	15	38	30	0
2017	0	124	17	5	0	16	41	33	0	0	124	17	5	0	16	41	33	0
2018	0	135	18	6	0	18	44	35	0	20	121	18	6	0	18	44	35	0
2019	0	146	20	6	0	19	48	38	0	60	128	23	7	0	22	55	44	0
2020	0	159	22	7	0	21	52	41	0	107	135	28	8	0	27	67	54	9
2021	0	172	24	7	0	22	56	45	0	161	142	34	10	0	32	81	65	26
2022	0	186	25	8	0	24	60	48	0	202	135	37	11	0	35	87	70	35
2023	0	201	27	8	0	26	64	51	0	218	145	40	12	0	37	93	75	36
2024	0	217	30	9	0	28	69	55	0	236	157	43	13	0	40	100	81	36
2025	0	234	32	10	0	30	74	59	0	254	170	46	14	0	43	108	86	37
2026	0	253	35	10	0	32	80	64	0	275	183	50	15	0	46	116	93	38
2027	0	273	37	11	0	34	86	69	0	296	198	54	16	0	50	124	100	39
2028	0	286	39	12	0	36	90	72	0	311	208	57	17	0	52	130	105	40
2029	0	301	41	12	0	38	94	75	0	327	218	60	18	0	55	137	110	41
2030	0	316	43	13	0	40	99	79	0	343	229	63	19	0	57	144	115	42
2031	0	332	45	14	0	42	104	83	0	361	241	66	20	0	60	151	121	43
2032	0	348	48	14	0	44	109	87	0	379	253	69	21	0	63	158	127	44
2033	0	358	49	15	0	45	112	90	0	389	259	71	21	0	65	163	131	45
2034	0	367	50	15	0	46	116	92	0	400	266	73	22	0	67	168	135	47
2035	0	377	52	16	0	48	119	95	0	410	274	75	22	0	69	173	138	49

Table 3.5: Detailed Traffic Forecasts – Olgii–Tsaaganuur

Year	Without Project Case									With Project Case								
	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck
	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated
2010	0	45	6	1	0	9	15	0	0	0	45	6	1	0	9	15	0	0
2011	0	48	6	1	0	9	16	0	0	0	48	6	1	0	9	16	0	0
2012	0	51	7	1	0	10	17	0	0	5	54	8	1	0	11	19	0	0
2013	0	54	7	1	0	11	18	0	0	11	62	9	2	0	13	22	0	0
2014	0	58	8	1	0	11	19	0	0	17	70	11	2	0	16	26	0	0
2015	0	62	8	1	0	12	20	0	0	19	75	12	2	0	17	28	0	0
2016	0	67	9	1	0	13	21	0	0	20	81	13	2	0	18	29	0	0
2017	0	72	10	2	0	13	22	0	0	22	87	13	2	0	19	31	0	0
2018	0	78	10	2	0	14	24	0	0	35	86	15	2	0	20	33	1	0
2019	0	84	11	2	0	15	25	0	0	50	84	16	3	0	21	35	2	0
2020	0	90	12	2	0	16	26	0	0	67	81	17	3	0	22	37	2	9
2021	0	97	13	2	0	17	28	0	0	87	77	18	3	0	24	39	2	26
2022	0	104	14	2	0	18	30	0	0	109	73	19	3	0	25	42	2	35
2023	0	111	15	2	0	19	31	0	0	117	78	21	3	0	26	44	2	36
2024	0	119	16	3	0	20	33	0	0	125	83	22	4	0	28	47	2	36
2025	0	127	17	3	0	21	35	0	0	134	89	24	4	0	30	49	2	37
2026	0	136	18	3	0	22	37	0	0	143	95	25	4	0	31	52	2	38
2027	0	146	19	3	0	24	39	0	0	153	102	27	5	0	33	55	2	39
2028	0	152	20	3	0	25	41	0	0	160	107	28	5	0	34	57	2	40
2029	0	159	21	4	0	25	42	0	0	167	111	30	5	0	36	59	2	41
2030	0	166	22	4	0	26	44	0	0	175	116	31	5	0	37	62	2	42
2031	0	174	23	4	0	27	46	0	0	182	122	32	5	0	38	64	2	43
2032	0	182	24	4	0	29	48	0	0	191	127	34	6	0	40	67	2	44
2033	0	186	25	4	0	29	49	0	0	195	130	35	6	0	41	68	2	45
2034	0	190	25	4	0	30	50	0	0	200	133	36	6	0	42	70	2	47
2035	0	195	26	4	0	31	51	0	0	205	136	36	6	0	43	71	2	49

Table 3.6: Detailed Traffic Forecasts – Tsaaganuur–Ulanbaishiint

Year	Without Project Case									With Project Case								
	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck	Car	SUV	Bus	Bus	Bus	Truck	Truck	Truck	Truck
	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated	Medium		Light	Medium	Heavy	Light	Medium	Heavy	Articulated
2010	0	45	6	1	0	9	15	0	0	0	45	6	1	0	9	15	0	0
2011	0	48	6	1	0	9	16	0	0	0	48	6	1	0	9	16	0	0
2012	0	51	7	1	0	10	17	0	0	0	51	7	1	0	10	17	0	0
2013	0	54	7	1	0	11	18	0	0	0	54	7	1	0	11	18	0	0
2014	0	58	8	1	0	11	19	0	0	0	58	8	1	0	11	19	0	0
2015	0	62	8	1	0	12	20	0	0	0	62	8	1	0	12	20	0	0
2016	0	67	9	1	0	13	21	0	0	0	67	9	1	0	13	21	0	0
2017	0	72	10	2	0	13	22	0	0	0	72	10	2	0	13	22	0	0
2018	0	78	10	2	0	14	24	0	0	19	75	12	2	0	16	27	1	7
2019	0	84	11	2	0	15	25	0	0	42	78	14	2	0	19	32	2	14
2020	0	90	12	2	0	16	26	0	0	67	81	17	3	0	22	37	2	30
2021	0	97	13	2	0	17	28	0	0	87	77	18	3	0	24	39	2	53
2022	0	104	14	2	0	18	30	0	0	109	73	19	3	0	25	42	2	63
2023	0	111	15	2	0	19	31	0	0	117	78	21	3	0	26	44	2	63
2024	0	119	16	3	0	20	33	0	0	125	83	22	4	0	28	47	2	64
2025	0	127	17	3	0	21	35	0	0	134	89	24	4	0	30	49	2	65
2026	0	136	18	3	0	22	37	0	0	143	95	25	4	0	31	52	2	65
2027	0	146	19	3	0	24	39	0	0	153	102	27	5	0	33	55	2	75
2028	0	152	20	3	0	25	41	0	0	160	107	28	5	0	34	57	2	76
2029	0	159	21	4	0	25	42	0	0	167	111	30	5	0	36	59	2	77
2030	0	166	22	4	0	26	44	0	0	175	116	31	5	0	37	62	2	78
2031	0	174	23	4	0	27	46	0	0	182	122	32	5	0	38	64	2	89
2032	0	182	24	4	0	29	48	0	0	191	127	34	6	0	40	67	2	90
2033	0	186	25	4	0	29	49	0	0	195	130	35	6	0	41	68	2	91
2034	0	190	25	4	0	30	50	0	0	200	133	36	6	0	42	70	2	93
2035	0	195	26	4	0	31	51	0	0	205	136	36	6	0	43	71	2	94